tunately, it didn't spread to nearby communities probably due to the high immunization coverage rate. In recent years, the numbers of workers from Southeast Asia where have only introduced rubella into vaccination programs have increased steadily. To prevent rubella in Taiwan, we suggest foreign workers should show proof of previous MMR vaccination or receive MMR vaccine before immigration.

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16.027

Historical Analysis of the 1889—1890 Pandemic in Europe

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Background: Numerous studies have investigated the 1918 pandemic ("Spanish flu") during the past years, with the implicit hypothesis that it could be a model of a possible future pandemic. By contrast very little is known on the pandemic that occurred 30 years before, in 1889—1890 (the "Russian flu").

Data, Methods: We have retrieved a report to the French Ministry of Health published in 1891 which gives the weekly death rates in 33 European cities from Russia, eastern and western Europe between November 2, 1889 and February 8, 1890. The base mortality was defined as the mean values of the 2 first and 2 last weeks for each of the 33 cities. The size and timing of the peak values were computed. The rate of the exponential burst in each city was used to compute the reproduction rate, assuming a generation time of 3 days.

Results: The spread of the pandemic was extremely rapid, with a starting point at St Petersburg (peak date = December 7. 1889). The UK and Scottish cities were hit only 6 weeks later. The mean speed of the front wave was approximately 300 Km/Week. The mean basic reproduction rate was 2.15 (range: 2.04—2.32). The mean peak value of the mortality curves was +105% above the base value (range 10%: Christiania to 221%: Brunn). The highest reproduction rates were observed at Stuttgart, St Petersburg, and Amsterdam.

Conclusion: The rapid dissemination of the influenza in the late 19th century shows unequivocally that even if feasible, the limitation of air transportation in case of a pandemic would be ineffective. The *R* values of the 1889—1890 epidemic are in line with those of the 1918 pandemic, which supports the use of R values around 2 in prospective models of the pandemic.

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Influenza B Outbreak among Influenza-Vaccinated Welfare Home Residents in Tropical Singapore

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Background: Influenza has a major impact on residents of long-term care facilities. Most outbreaks have been caused by influenza A. Very few influenza B outbreaks have been documented; most of which have been reported in temperate countries. In March 2007, an influenza B outbreak occurred among a highly immunized population in a welfare home in tropical Singapore. The study objective was to explore the clinical and laboratory features of the infection and determine the possible reason for the outbreak.

Methods: A retrospective study was conducted on staff and residents from the Home who presented with respiratory illness (RI) from 16—28 March 2007. Epidemiologic, vaccination, clinical and laboratory data were collected.

Results: Of 180 residents and 30 staff from the Home, 17 residents (clinical attack rate 9.4%) and two staff (clinical attack rate 6.7%) had RI. 13 Residents were hospitalised. Nevertheless, none of the staff need hospital admission. Most of the hospitalised residents had mild illness and were discharged within a week. However, two suffered from severe complications including lung abscess and bacteraemia respectively. All except one person from the Home were vaccinated with the trivalent influenza vaccine eight months earlier. Although all who had RI had been vaccinated, influenza B was identified in six of them. Genetic studies revealed that the strain that caused the infection was closely related to B/Houston/B720/2004, which had a 8.2% amino acid difference from the vaccine strain B/Malaysia/2506/2004.

Conclusion: The antigenic drift in the circulating influenza B strain is the probable cause of the outbreak. This outbreak underscores the importance of continual surveillance even in a highly vaccinated population. In population living in confined settings, RI surveillance plays a crucial role in early influenza outbreak detection, even in a tropical country like Singapore.

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16.029

Impact of Universal Hepatitis B Vaccination on the Prevalence of HBs and HBe Antigenemia Among Pregnant Women in Taiwan

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Background: Vertical transmission represented 40—50% of hepatitis B virus (HBV) acquisition in Taiwan, a hyperendemic area. In 1984, Taiwan implemented universal newborn HBV immunization, and routine screening for hepatitis B surface antigen (HBsAg) and hepatitis B e antigen